

CLAIMS

1. Method of partitioning a computer program (10) situated on
 5 a first processing site (1), the program containing subprograms (SP11, SP12, SP13) able to transfer information, characterised in that it includes:

- a step of automatic determination (E310, E320, E327), for at
 least one of said subprograms (SP11, SP12, SP13), of data (QE, QS,
 10 TPS_TOT) representing the transfer of at least part of the information
 processed by said subprogram, said automatic determination step
 comprising :

- a substep of modifying (E310) the source code
 (210) of said computer program (10), substep during which are
 inserted in the source code (210) of at least one subprogram
 15 (SP11, SP12, SP13) of said computer program (10):

- first lines of instructions (L421)
 making it possible, when they are executed (E327),
 to obtain and store a reference (SP_CALLER) of a
 subprogram calling said subprogram; and

20 - second lines of instructions (L425, L429) making it possible, when they are executed
 (E327), to obtain and store the total of the data (QE, QS, TPS_TOT) representing the information
 received or transferred by said subprogram ;

25 - a substep of compiling (E320) said modified
 code (210') and generating a modified program; and

- a substep of obtaining said representative data
 (QE, QS, TPS_TOT) by means of at least one execution (E327) of
 said modified program ;

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- and a step (E350) of allocating said subprogram to a second processing site (2, 3) according to said data (QE, QS, TPS_TOT).

2. Partitioning method according to Claim 1, characterised in that said substep (E310) of modifying the source code (210) replaces, in the source code of at least one subprogram (SP11, SP12, SP13) of said computer program (10), the calls to low-level functions (221, 222, 223) by lines of instructions (L423, L424, L425) making it possible, when they are executed, to obtain and store if the data transferred by said subprogram are situated on a distant storage site (2, 3).

3. Partitioning method according to Claim 1, characterised in that said representative data (QE, QS, TPS_TOT) are obtained statistically, after at least two executions of said modified computer program.

4. Partitioning method according to Claim 1, characterised in that said data represent the quantity (QE, QS) of said part of the information processed by said subprogram.

5. Partitioning method according to Claim 1, characterised in that said data represent the transfer time (TPS_TOT) of said part of the information processed by said subprogram.

6. Partitioning method according to Claim 1, characterised in that said data (QE, QS, TPS_TOT) represent characteristics of a transmission channel between said first processing site (1) and said second processing site (2, 3).

7. Partitioning method according to Claim 6, characterised in that said data representing the transmission channel are chosen from amongst latency, bandwidth, error rate, the mean load on the transmission channel and at least one value dependent on a protocol for communicating said part of the information between said first processing site and said second processing site (2, 3).

8. Partitioning method according to Claim 1, characterised in that said allocation step (E350) is performed so as to minimise, by analysis

of said representative data (QE, QS, TPS_TOT), the transfer of information between the first processing site (1) and said second processing site (2, 3).

9. Device for partitioning a computer program (10) situated on a first processing site (1), the program containing subprograms (SP11, SP12, SP13) able to transfer information, characterised in that it has:

- means of automatic determination, for at least one of said subprograms (SP11, SP12, SP13), of data (QE, QS, TPS_TOT) representing the transfer of at least part of the information processed by said subprogram, said automatic determination means including :

- means (2010) of modifying the source code (210) of said computer program (10), , said means being adapted to insert in the source code (210) of at least one sub-program (SP11, SP12, SP13) of said computer program (10) :

- first lines of instructions (L421) making it possible, when executed (E327), to obtain and store a reference (SP_CALLER) of a subprogram calling said subprogram; and

- second lines of instructions (L425, L429) making it possible, when executed (E327), to obtain and store the total of the data (QE, QS, TPS_TOT) representing the information received or transferred by said subprogram;

- means (2020) of compiling said modified code (210') and generating a modified program; and

- means (2030) adapted to obtain said representative data (QE, QS, TPS_TOT) by at least one execution (E327) of said modified program.

- and means of allocating said subprogram to a second processing site (2, 3) according to said data (QE, QS, TPS_TOT).

10. Partitioning device according to Claim 9, characterised in that said means (2010) of modifying the source code (210) replace, in the source code of at least one subprogram (SP11, SP12, SP13) of said computer program (10), the calls to low-level functions (221, 222, 223) by lines of instructions (L423, L424, L425) making it possible, when executed, to obtain and store if the data transferred by said subprogram are stored on a distant storage site (2, 3).

11. Partitioning device according to Claim 9, characterised in that said means adapted to obtain said representative data (QE, QS, TPS_TOT) operate statistically, after at least two executions of said modified computer program.

12. Partitioning device according to Claim 9, characterised in that it is adapted to consider data representing the quantity (QE, QS) of said part of the information processed by said subprogram.

13. Partitioning device according to Claim 9, characterised in that it is adapted to consider data representing the transfer time (TPS_TOT) for said part of the information processed by said subprogram.

14. Partitioning device according to Claim 9, characterised in that it is adapted to consider data (QE, QS, TPS_TOT) representing characteristics of a transmission channel between said first processing site and said second processing site (2, 3).

15. Partitioning device according to Claim 14, characterised in that it is adapted to consider data representing the transmission channel chosen from amongst latency, passband, error rate, the mean load on the transmission channel and at least one value dependent on a protocol for communicating said part of the information between said first processing site and said second processing site (2, 3).

16. Partitioning device according to Claim 9, characterised in that said allocation means are adapted to minimise, by analysis of said

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representative data (QE, QS, TPS_TOT), the transfer of information between the first processing site (1) and the second processing site (2, 3).

17. Partitioning device according to Claim 9, characterised in that the automatic determination and allocation means are incorporated in:

- 5 - a central unit (100),
- a read only memory (102) containing the instructions relating to the implementation of the partitioning; and
- a random access memory (103) containing registers adapted to record variables modified during the execution of said instructions.

10 18. Computer, characterised in that it has means adapted to implement the method according to any one of Claims 1 to 8.

19. Computer, characterised in that it includes the device according to any one of Claims 9 to 17.

15 20. An information storage medium which can be read by a computer or by a microprocessor storing instructions of a computer program, making it possible to implement a partitioning method according to any one of Claims 1 to 8.

20 21. The information storage according to Claim 20, characterised in that it is removable.